

3rd World Conference on Psychology, Counselling and Guidance (WCPCG-2012)

Facing The Influence of Poverty on Graduation Rates in Public High Schools

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Abstract

46.2 million Americans live below the official poverty line (Census Bureau, 2011). Nationally, only about two-thirds of all students who enter 9th grade are able to graduate with traditional high school diplomas. This paper examines the influence of poverty on graduation rates in public high schools in the United States for the 2007-2008 school year. We seek a correlation between the graduation rates and the poverty rates in 50 states and the District of Columbia. Graduation rates and poverty rates were analyzed through Correlation Analysis (bivariate analysis). The result indicates that there is a negative moderate association between graduation and poverty rates ($r = -0.530$).

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Selection and peer-review under responsibility of Prof. Dr. Huseyin Uzunboyulu & Dr. Mukaddes Demirok, Near East University, Cyprus

Keywords: *high school, poverty, educational level, graduation rates.*

1. Introduction

Poverty is a chronic matter in the United States that has influenced the quality and productivity of education. A major consequence of not graduating from high school is that it may lead to a continuation of poverty. One of the purposes of No Child Left Behind Act (NCLB) is to improve student achievement of those who live in poverty (Darling-Hammond, 2006). Although high school graduation rates increase throughout the United States as a result of education reforms based on this act, students in poverty indicate a low achievement and a high dropout rate in comparison to their peers who have a higher socioeconomic status (Howard & Madison-Harris, 2011). This indicates that the lack of education is in direct relation to poverty (Awan, Malik, Sarwar, & Waqas, 2011).

To comprehend this problem profoundly, in the 1960s, the United States Government sought to determine to what extent households and families in the United States were in poverty. To achieve this goal, a standardization process task was given to the Ways and Means Committee of the House of Representatives to determine what constituted poverty for the average American. In 1963-1964, the poverty line, or *poverty threshold*, was developed by Molly Orshansky. She calculated it based on the minimal food budget of a household, and then multiplied by

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three (Rank, 2004). According to U.S. Census Bureau (2010), the poverty line for a family of four is estimated at \$22,000. This implies that households, whose income is below the poverty threshold, face impoverishing factors (Seccombe, 2000). However, a problem occurs when this standard is implemented across the nation because food, housing costs, and other living expenses vary. Additionally, Seccombe asserts that this standard of calculation is not an accurate determination of poverty for the entire nation. For instance, the calculation does not take some factors into account, such as governmental assistance, community services, and family intervention for poverty-stricken families. Considering national poverty rate, which is 15.3% according to 2009 and 2010 American Community Survey (U.S. Bureau of Census, 2011), with aforementioned matters, prominent effects of poverty on individuals' lives can be predicted. In the preceding section, we deal with dynamics of identifying poverty issues in the U.S., and the justifications for these identifications. The proceeding section will cover how poverty is associated with high school students' dropout rates, which is an indication of graduation rates.

Not surprisingly, a student in poverty is more likely to drop out of school than their affluent peers (Battin-Pearson, 2000) because children who grow up in poverty encounter more arduous challenges. These challenges lead to having fewer role models, less opportunities for building networks of trust, and more pressure to secure income as soon as possible (Raffo, 2009). In the same vein, lack of parental and societal support leads to poor students having a higher dropout rate. Christenson and Thurlow (2004) contend that descendants of Hispanic, African American, and Native American minorities have a higher dropout rate than their Caucasian peers. He attributes this conviction because minority students have a higher chance of being born into poverty. This claim pinpoints a relationship between poverty and students' dropout rates.

Another factor that adversely affects these students in many federal states is the high-stakes examinations. The school system requires students to pass these exams to award them a standard diploma or to allow them passing to the next grade. The goal of the state-mandated testing is to warrant that all students have a standardized level of competence. An unfavorable peculiarity of the aforementioned exams is that even if students pass the required courses, they cannot graduate or pass to the next grade upon failing the tests (Christenson & Thurlow, 2004). The graduation rate is solely calculated on the number of students who have not graduated. The students included in the statistics might have completed their course work but not passed the exit exams. In sum, children in poverty have many challenges in the United States. The government and school implementing programs obstruct graduation - even after classes are completed- and provide lack of support in the community and at home. This research adds to the literature in finding correlation between poverty and graduation rates in the United States. Therefore, in this study, we will investigate the graduation rates in 50 states and the District of Columbia, and determine the extent to which poverty has affected the graduation rates in the states during the 2007-2008 school year.

2. Methods

In this study, we obtained poverty data from Current Population Survey (CPS) which is conducted by the U.S. Census Bureau (2008). The scope of the CPS is to obtain official statistics of employment and unemployment in the United States. This survey has been conducted every month on 57,000 households for 50 years. The data that we analyzed in this study represent the percentage of households in poverty, which were collected from October 2007 through October 2008. In the report, the percentages of people in poverty are provided with 90% confidence interval for 50 states and the District of Columbia. Similarly, high school graduation rates were adopted from the Common Core of Data (CCD) which is reported by the National Center for Educational Statistics (NCES). We used Averaged Freshman Graduation Rates (AFGR) of high school students for the 2007-2008 school year in the United States (Chapman, Laird, & KewalRamani, 2010). The data for CCD were obtained from public high school students, staff, their schools and public school districts in the United States across 50 federal states and the District of Columbia.

3. Results

This study analyzes the effects of poverty on graduation rates in the United States and the data for this analysis were adopted from the U.S. Census Bureau and the National Center for Educational Statistics (NCES) reports that provide information from 2007-2008. In this study, all 50 states and the District of Columbia were considered as one group and the association between graduation rates and poverty rates were analyzed by utilizing Correlation (bivariate) analysis. According to Table 1, the range of graduation rates between states are quite high, whereas the range of poverty rates between states are relatively low. Furthermore, the standard deviations tend to move parallel to the range values.

Table 1. Descriptive statistics for graduation and poverty rates

Groups	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance
					Statistic	Std. Deviation		
PovertyRate	51	14.0	6.4	20.4	12.147	.4049	2.8913	8.359
GraduationRate	50	38.3	51.3	89.6	75.966	1.1083	7.8371	61.420
Valid N (listwise)	50							

Table 2. Correlation between graduation rates and poverty rates

		GradRate	PovertyRate
GradRate	Pearson Correlation	1	-.530**
	Sig. (2-tailed)		.000
	N	50	50
PovertyRate	Pearson Correlation	-.530**	1
	Sig. (2-tailed)	.000	
	N	50	51

** . Correlation is significant at the 0.05 level ($p < 0.05$).

Correlation coefficient ($r = -0.530$) indicates that there is a negative moderate association between graduation rates ($M = 75.966$; $SD = 1.1083$) and poverty rates ($M = 12.147$; $SD = 0.4049$). Thus, while poverty rates increase, graduation rates decrease. Based on the correlation coefficient and $\alpha = 0.05$ significant level, we conclude that there is a statistically significant relationship between graduation rates and poverty rates in the United States ($p < 0.05$). According to Graph 1., the R^2 value is 0.281, which means that % 28.1 of the variability on graduation rates can be accounted for by the poverty rates.

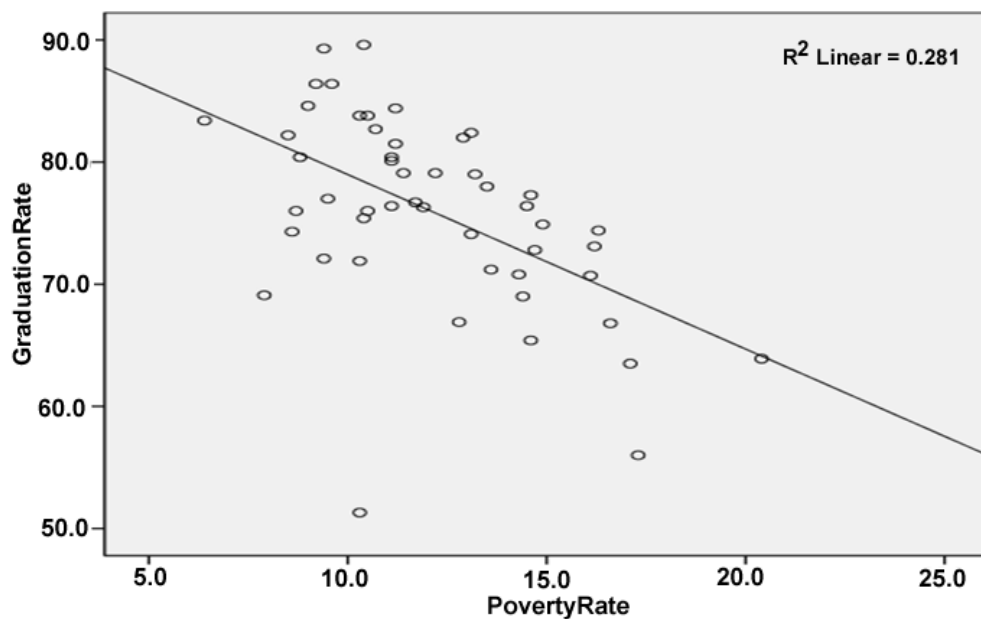


Figure 1. The display of an association between graduation and poverty rates

4. Discussion

This study examined the effects of poverty rates on the graduation rates and we found a number of findings including: (1) there is a statistically significant relationship between poverty and graduation rate, (2) there is a moderate and negative relationship between poverty and graduation rates, and (3) graduation rate increases as poverty rate decreases in the United States. These findings are aligned with the previous studies. In previous studies, researchers mostly predicated students' poverty status on the opportunity of having free/reduced lunch. Their findings suggest that poverty and students' achievement are negatively correlated (Merten & Flowers, 2003; Payne & Biddle, 1999; Turner, 2000). Since graduation is an indicator of students' achievement, our findings comply with the previous studies' findings.

5. Limitations

This study does not account for the other effects of poverty on the individual, the culture in the different regions, or the programs that help students in poverty to graduate. These factors, more or less, differ in each of these regions. Thus, poverty rate should not be considered as the mere factor of graduation rate. In addition, the way that poverty is determined in the United States is not a consistent indicator for the entire nation as living expenses and housing costs vary by region.

6. Implications

The purpose of the study was to determine the role of poverty on the graduation rate in the United States. The implications of the study were that as the poverty increases in the United States, the graduation rate decreases. Although poverty and graduation rate is correlated, future research can examine other factors related to the condition of schools, parents, and living environment that have effects on graduation rates, such as school sizes, government support for people in poverty, and parents' unemployment rates. Moreover, teachers' expectations on students in

poverty can be another factor that affects graduation rate. In addition to these suggestions, we propose that the replication of this study is feasible. The result of this research is generalizable at a large perspective since both surveys were conducted across all states with a myriad number of participants. Despite the fact that individual states can demonstrate relatively high or low correlation between poverty rates and graduation rates, the result of this study provides a general picture of the situation of all states and the District of Columbia.

Acknowledgments

We would like to thank Dr. Margaret Ross, faculty member of Auburn University, due to her support and encouragement. We would also like to thank Eva Marie Odom due to her invaluable help in this study. We extend our thanks and appreciation to the Turkish Ministry of National Education for providing us financial support to conduct this research.

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